



Published in final edited form as:

Health Promot Pract. 2022 September ; 23(5): 785–792. doi:10.1177/15248399211009783.

Gender Differences in Older Adults' Perceptions of Falls and Fall Prevention

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Abstract

Aim.—To explore gender differences in older adults' perceptions about preventing falls.

Background.—Falls are a major problem for older adults and health care systems and a challenge to the aging population. Consideration of older adults' perceptions of fall prevention is needed to increase their engagement in evidence-based prevention strategies.

Method.—A qualitative analysis of secondary data was performed.

Results.—Three major themes emerged: We've Seen It, Women Are Caregivers, and Men Are Analyzing Risks and Modifying Behaviors. The men and women in this study shared information about falls and fall prevention in alignment with traditional role expectations. The women learned about falling through their roles as caregivers and prevented falls by controlling extrinsic risk factors indoors such as holding onto handrails on stairs or making home modifications. The men demonstrated an analytical approach to reducing risk such as employing improved safety measures during outdoors activities as a responsibility to maintain independence.

Implications.—The different perceptions of men and women influence what they do to engage in fall prevention. Health care professionals need to consider gender differences and take an individualized approach that includes allowing older adults to share their experiences, acknowledging their successful fall prevention behaviors, and validating and addressing their concerns.

Keywords

health promotion; qualitative research; health research; unintentional injury; injury prevention/safety; aging

One in four adults aged 65 years and older reports falling each year (Centers for Disease Control and Prevention, 2020) resulting in about 36 million falls in the United States in 2018. Falls are the leading cause of injury and death from injury in older adults

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and are associated with significant economic costs. Florence et al. (2018) estimated U.S. medical costs attributable to fatal and nonfatal falls in 2015 to be US\$49.5 billion. Falls and injuries from falls also cost older adults functional independence and can strain the daily productivity and quality of life of those who care for them. “Falls prevention is a challenge to population aging” (World Health Organization, 2007, p. 3). The rate of falling has remained at approximately 30% since 1998 (Rubenstein, 2006) and despite receiving considerable attention the trend continues. Because falls increase with age (World Health Organization, 2007), and the number of persons older than 60 years is currently growing faster than any other age-group, fall rates are expected to increase.

There is evidence from high-quality reviews and clinical guidelines that interventions can reduce falls by as much as 24% (Choi & Hector, 2012; Gillespie et al., 2012; Guirguis-Blake et al., 2018). However, diffusion of risk assessment and management practices into the clinical setting is not routine. Smith et al. (2015) found low rates of fall screening and referral for fall prevention among health care providers. Another study showed that among older adults reporting a fall to their health care provider, only 60% reported receiving information to prevent future falls (Shumway-Cook et al., 2009). Barriers to implementing fall prevention into routine practice, including lack of time and access to therapies, have been reported in the literature (Casey et al., 2017; Smith et al., 2015). In addition, older adult retention rates in fall prevention intervention protocols have been reported to be low. Nyman and Victor (2012) reported that adherence to fall prevention recommendations are typically around 50% at 12 months following intervention. Vincenzo and Patton (2019) reported 57% engagement rates 6 months following a fall prevention education intervention. A better understanding of older adults’ perceptions of fall prevention is needed in order to increase adherence to fall prevention interventions.

Falls experienced by older adults result from complex interactions among biological or intrinsic factors, environmental or extrinsic factors, and behavioral and activity-related factors (Inouye et al., 2007). Multiple studies have identified risk factors related to demographics such as age and race, health status and presence of chronic illness, and number and types of medications (American Geriatrics Society & British Geriatrics Society, 2010; Deandra et al., 2010; Lee et al., 2017; Ming & Zecevic, 2018; Nicklett & Taylor, 2014; Shumway-Cook et al., 2009; Stevens et al., 2010; Yamashita et al., 2011). Gender differences in fall rates have been widely reported in the literature (Resnick et al., 2020). Stevens et al. (2012) analyzed data from the Medicare Current Beneficiary Survey and found that women were more likely than men to seek medical care for falls (37.5% vs. 24.3%) and discuss fall prevention with a health care provider (31.2% vs. 24.3%). Other reports indicate that males are more likely to fall, and some studies report no association between gender and falling (Resnick et al., 2020).

Gender differences in number of falls, death from falls, and those seeking medical care on falling suggest the presence of gender-related mediating factors to mitigate risk. A qualitative study by Horton (2007) reported gender differences in older adults’ perceptions of fall risk behavior. Men perceived themselves as rational individuals who analyzed risks for falling, while women decreased participation in activities that increased their risk of falling (Horton, 2007). Clancy et al. (2015) interviewed older adults to explore the

perceptions of falling and fall prevention and found that women spoke of adapting, being optimistic, and dealing with their ailments, while men told stories of physical strength and activity in their past lives.

AIM

The aim of this study was to explore the gender differences in older adults' perceptions about how they can prevent falls. Using qualitative methodology, researchers sought to describe aspects of fall prevention experience in older men and women and to lay the foundation for future research related to engaging older adults in fall prevention interventions.

METHOD

This study is a secondary analysis of existing qualitative data from a parent study to determine older adults' awareness of and experiences with fall prevention and recommendations for strategies to improve engagement in physical therapy for falls prevention. The original study was framed using constructs from the health belief model (HBM). The HBM was developed by Hockbaum, Rosenstock, and Kegels in the 1950s to explain why people did not participate in free tuberculosis screening programs (Glanz et al., 2005). The six HBM constructs—perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy—provide a framework for understanding and managing health behaviors (Rosenstock, 1974).

Four focus groups were conducted with 27 older adults using semistructured interview questions based on HBM constructs displayed in Table 1. The criteria for inclusion in the study were as follows: being aged 65 years and older, living independently in the community, and being able to adequately respond to the researcher's questions. Participants ($n = 27$) were recruited using convenience sampling from a physical therapy practice. Participants then provided referrals to recruit participants through a snowball technique. The four focus groups were organized by gender: two all-male participants (M1 and M2) and two all-female participants (F1 and F2). All received a \$30 gift card in appreciation for participation in the focus group. All participants provided verbal consent.

Data for the parent study were collected using open-ended, semistructured interviews that were audio-recorded and later transcribed verbatim. The moderator (JV) began the focus group meetings with an open question: "Tell me what you know about older adults falling." Each group meeting lasted between 78 and 89 minutes. The goal was to promote discussion until natural saturation of the data, or when ideas were not repeated and no new ideas were forthcoming. At the end of each focus group discussion, the researcher summarized the major points and encouraged the participants to provide clarification and validate the researcher's understanding.

Data analysis processes from a thematic analysis approach developed by Braun and Clarke (2006) were applied to reexamine the data from the parent study in order to answer the new research question. The author involved in the study design and analysis of the data for the parent study (SP) reread the transcripts and highlighted the comments that pertained to

perceptions about falls and fall prevention. Initial codes were generated. As similarities and differences between the four focus groups were compared, gender-specific differences in perceptions about fall prevention emerged. Repeated readings verified the presence of the themes.

Trustworthiness was achieved by frequent discussion among the researchers to ensure codes and themes adequately reflected the data. The second author (JV) reread the transcripts and the themes and provided peer debriefing to ensure credibility. Transferability was ensured by providing a thick description of the focus groups. An audit trail of the interview transcripts, data reduction and analysis, and methodological notes were maintained.

RESULTS

Participants ranged in age from 65 to 99 (average 78) years. Ten (37%) had experienced a fall in the past year and 26% reported suffering an injury from a fall. Table 2 provides a summary of the demographic characteristics. Three main themes emerged from the focused analysis: (1) *We've Seen It*, (2) *Women Are Caregivers*, and (3) *Men Are Calculating Risks and Modifying Behaviors*.

We've Seen It

The interviews showed that both male and female participants have knowledge about the susceptibility and the severity of falling because they have seen it. Both women and men told stories about relatives or people they know who have fallen, indicating that they are familiar with the risks and the consequences of falling. Examples include "A friend at church ... fell down the stairs ... I always hold on because I know that chance is there" (F1). "My dad broke a hip, that was the beginning of the end." "This is the fourth fall she's had. She was outside watering her plants ... and she slipped ... she had to go to a home ..." (F2).

When participants discussed falling themselves, the comments were brief. The falls they described occurred both indoors and outdoors and were mostly associated with extrinsic factors such as weather or impediments: "I fell on the ice and broke my shoulder. ... I didn't have on the proper shoes ..." (F2).

The men and women differed in their discussions of risk factors. Several men talked about vertigo, dizzy spells, being "lightheaded," postural hypotension, and specifically mentioned blood pressure medication and Flomax (tamsulosin) as risk factors. The women only mentioned vertigo and dizziness from medications once, and one woman talked about a urinary tract infection causing a fall.

Several women specifically discussed the susceptibility of falling alone and not being able to get up. One exemplary quote was about a 92-year-old neighbor:

Her paper was not picked up from the yard ... she had fallen into the bathtub during the night and couldn't get up. She had a lifeline, but she took it off when she went to bed and laid it on the table. (F1).

When asked if they had talked to their doctors about falling, women said that their doctor had asked about falling but did not provide information on fall prevention. One of the women said, “They assume, well, you didn’t fall, so must not have had any problems” (F1). Another woman said, “He never gives me a suggestion or improvement.”

Women Are Caregivers

Self-efficacy with fall prevention strategies was expressed by the women. When the researcher asked, “Where did you learn about falling and fall prevention?”, one of the women replied, “Women are caregivers ... you’ve seen the consequences of what can happen with other people, and then you might research it for somebody else” (F2).

The women offered specific and practical fall prevention strategies that included watching curbs, using nightlights, taking vitamin D and calcium to prevent osteoporosis, wearing proper shoes, avoiding uneven pavement, and exercising for strength and balance. When they talked about not being able to get up or get help after a fall, they shared ideas on how to address it, as the following comments illustrate: “Do you teach anything about getting up when you do fall ... cause many people cannot get up and if nobody’s there ...” (F2). “When my sister started falling ... I got her neighbors number ... and they checked on her” (F1). “Practice getting down on the floor every day. If you practice getting up, that might ease your panic a little bit ...” (F1). One woman shared that her grandmother lived in a senior apartment building where the residents were required to take a sign from the inside of the door and put it on the outside of the door that said, “I’m awake, I’m ok” (F1).

When asked what would help facilitate engagement of older adults in fall prevention programs, women talked about the need for reminders and doing things with others. “Because we forget things ...” (F2). One of the women suggested having an application on her phone to remind her to walk: “Alexa, have you walked today?” (F1). Another woman suggested, “. . . socialization for some people ... reinforces ... and there’s some accountability if you do it in a group ... make it fun” (F2).

Men Are Calculating Risks and Modifying Behaviors

The men talked about analyzing their fall risk and making adaptations. They became animated when they talked about past behaviors that demonstrated strength and risk taking. Several participants said that getting older was inevitable and made it necessary to make changes in how they approached these activities, as these comments illustrate: “You know, I used to get up on my roof and blow out the gutters with the blowers ... it just changes ...” (M1).

The men were more inclined to want information from their health care provider and include it in their risk analysis. For example, one said,

As a man, maybe we respond to statistics, if the doctor says after age ... the statistics show that you were more apt to have a fall ... probably file it away, but at least it would be there in your mind. (M1)

Another suggested that the doctor should provide a written brochure and go over it: “... would be more lasting than just handing a brochure, but then you would have the brochure to look things up” (M2).

DISCUSSION

The aim of this study was to explore gender differences in perceptions of falls and fall prevention. Our respondents indicated that they were familiar with their susceptibility to falling and the severity of falls because they had “seen it.” Both men and women identified extrinsic factors associated with the environment or home more often than medical or health problems. The men were more likely to identify extrinsic factors outside of the home such as safety on ladders, while the women were more likely to discuss holding onto rails and removing throw rugs. According to a study of narrative texts from the 1997 to 2010 results of the National Health Interview Study by Timsana et al. (2017), older women suffered fall-related injuries more frequently indoors and on stairs, while men suffered more fall-related injuries outdoors and from ladders. Other studies reported similar results. Kelsey et al. (2010) found that outdoor falls are just as common as indoor falls and that risk factors for indoor falls included being female, while risk factors for outdoor falls included being male and being relatively physically active and healthy. Duckham et al. (2013) found significant sex differences in circumstances when older adults fall indoors and outdoors. Compared with men, women had greater injurious fall rates in the kitchen and while performing household activities. Men had higher rates of outdoor falls in locations of recreation, during vigorous activities, and on snowy or icy surfaces. However, women and men did not differ significantly in rates of falls during walking for exercise. These findings suggest that gender differences may be attributable to how and where older adults spend their time.

In our study, men and women also differed in their perceptions of intrinsic risk factors for falling. Horton (2007) posited that the type of perceived risk factor, intrinsic or extrinsic, influences older adults’ perceptions of the extent to which they can control falling. Extrinsic factors such as removing throw rugs or avoiding walking on ice are more likely to be considered controllable, while intrinsic factors, such as vertigo, may be considered less controllable. It is possible that the women exerted control over falling by focusing on extrinsic factors. Although 33% of the participants in our study reported taking three or more medications, only antihypertensive drugs and alpha blockers were specifically identified as fall risk-inducing drugs, and only by men. These findings indicate that older women and men are aware of areas they are most at risk of falling and report precautions to prevent falls but may not be taking the appropriate precautions to prevent falls, pointing out the importance of health care providers reviewing the factors that predispose older adults to falling. Yet both men and women participants confirmed previous findings from literature indicating that health care providers do not consistently address fall prevention with older adults, even after they have fallen (Shumway-Cook et al., 2009).

The gendered nature in which falls and fall prevention was perceived is reflected by the women’s descriptions of themselves as caregivers. They emphasized that they had learned about fall risks and how to avoid them by taking care of others. They also expressed concerns about falling while alone and not being able to get up or get help and shared

ideas on how to manage the concern. These findings are similar to another study reporting the experiences of older women who had fallen at home alone (Gardiner et al., 2017) and emphasize the importance of social interaction and informal networks. Health care providers can promote engagement in fall prevention in women by emphasizing the benefits of attending programs with others for socialization.

Gender influences older adults' attitudes toward fall prevention and possibly the actions they are willing to take to prevent falls. Therefore, assuming a more individualized approach when counseling older adults may be necessary to prevent falls. One individualized approach to effect behavioral change, which has received a great amount of attention in the past 10 years, is motivational interviewing. A provider can use motivational interviewing to stimulate behavior change by first conducting a series of open-ended questions to better understand lifestyle and encourage patients to reflect on how they might adjust behaviors to accomplish their goals (Miller & Rollnick, 2013). For example, asking older adults open-ended questions such as "Tell me how you spend your time" and "What do you currently do to prevent falling?" allows the individual's perspectives to lead the conversation about modifying behavior. Affirming strengths with comments such as "I'm glad that you are already being so careful" helps build confidence. Reflecting on the men's stories with comments such as "It seems like taking care of yourself and your family is important to you" and on the women's stories with "It sounds like you would like to have someone check on you and develop a plan for what to do in case you fall" confirms that individuals' stories are heard and valid. The next step would be to ask older women to think about what they might want to change in order to be safer and/or to reduce risks for falling, such as "Would you like to learn about safe floor to stand transfers and how to instruct your friends or family to help?" "What would it look like if you were to start an exercise for a balance program?" and "How motivated are you to exercise?"

The men in our study were receptive to doctors discussing fall prevention guidelines with them and providing them with statistics as part of risk calculation. This is consistent with Horton's (2007) findings that an analytical orientation guided the men in their behavior. Asking men what they know about outdoor risk factors and measures to decrease outdoor falls can help identify gaps in fall prevention knowledge/awareness, calculate fall risks, and identify realistic lifestyle adaptations to prevent falls.

We acknowledge several limitations in the study. First, our convenience sample was drawn from a single suburban area with highly educated and mostly White participants. Generalizability of findings to the wider older adult population is limited by sample size and composition. Additional research should be done to understand the perspectives of other ethnicities and cultures that may experience barriers to participating in fall prevention. To help mitigate limitations, we used specific procedures for our secondary data analysis, including inclusion of the research team from the parent study and rigorous analytical methods with attention to trustworthiness, credibility, transferability, and reproducibility. Because the data had already been collected, researchers could not influence the interviews, minimizing bias (Ruggiano & Perry, 2019). A triangulation of data collection methods such as interviews and/or surveys would enrich the results and guide the development of

larger scale quantitative studies to allow for generalizations about social and cultural factors influencing fall prevention.

Acknowledgments

This study was supported by the Translational Research Institute, Grant KL2 TR003108 and UL1 TR003107 through the National Center for Advancing Translational Sciences of the National Institutes of Health (NIH). The funders played no role in the design, conduct, or reporting of this study. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

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IMPLICATIONS

Our study revealed that men and women think about their risk for falls differently, and therefore assume different approaches to prevent falls. Understanding the complex factors influencing adherence to fall prevention behaviors between men and women is an important prerequisite to developing effective interventions to promote healthy aging among older adults.

Future directions for this research should include development and pilot testing of fall risk assessments and prevention programs that account for gender differences in older adults' approaches to fall prevention. Differences related to age and ethnicity should also be explored.

TABLE 1

Semistructured Interview Questions Based on HBM Constructs

HBM constructs	Interview question
Perceived susceptibility	Tell me what you know about older people having a fall or multiple falls.
Perceived severity	What do you think most older adults know about their risk of falling?
Perceived susceptibility	Tell me about how falls have or have not personally affected you.
Perceived susceptibility	Tell me about information, if any, you have gotten about falls and preventing them.
Perceived benefits	Tell me about how habits may help or hurt you or others to prevent falls.
Perceived barriers	
Self-efficacy	Tell me about how you feel about your control or lack of control over preventing a fall.
Cues to action	What would help an older adult to engage in falls prevention behaviors? What is the best way to get information to older adults about falls prevention?
Perceived barriers	What role, if any, do you feel physical therapy plays in preventing falls?
Perceived benefits	How easy or difficult do you believe physical therapy is?
Perceived benefits	What might help someone go to physical therapy?
Perceived barriers	What might keep someone from going to physical therapy? Is there anything you would like to tell me that we did not talk about today?

Note. HBM = health belief model.

TABLE 2

Descriptive Statistics of Participants (N = 27)

<i>Variable</i>	<i>n (%)</i> /years
Gender	
Male	13 (48)
Female	14 (52)
Average age	
Male	79.4 years
Female	76.1 years
Race/ethnicity	
Non-Hispanic—White	21 (78)
Did not state	6 (22)
Education	
Less than a high school diploma	2 (7)
High school degree or equivalent (GED)	0
Some college, no degree	11 (41)
Associate degree	2 (7)
Bachelor's degree	5 (19)
Master's degree	3 (11)
Professional degree (MD, DDS, DVM)	0
Doctorate (PhD, EdD)	2 (7)
Did not state	2 (7)
Annual income (\$)	
<20,000	3 (11)
20,000–34,999	6 (22)
35,000–49,999	2 (7)
50,000–74,999	5 (19)
75,000–99,999	7 (26)
>100,000	3 (11)
Did not state	1 (4)
Marital status	

<i>Variable</i>	<i>n (%)</i> / <i>years</i>
Married or in a domestic partnership	19 (70)
Widowed	8 (30)
Coexisting conditions	
Cardiovascular disease	5 (19)
Cancer	1 (4)
Chronic obstructive pulmonary disease	1 (4)
Hyperlipidemia	4 (15)
Hypertension	7 (26)
Thyroid impairment (hyper-/ hypothyroidism)	2 (7)
Enlarged prostate	2 (7)
Osteoporosis	1 (4)
Arthritis	5 (19)
Vestibular impairment	3 (11)
Vision impairment (glaucoma, cataracts)	2 (7)
Musculoskeletal impairments (low back pain, knee pain)	6 (22)
Neuromuscular impairments (sciatica, fibromyalgia)	2 (7)
Depression	2 (7)
Number of medications	
1–2	15 (56)
3–4	6 (22)
>5	3 (11)
Did not state	3 (11)
Experienced a fall in the past year	
Yes	10 (37)
No	17 (63)
Number of falls in the past year	
1–2	4 (15)
3–4	2 (7)
>5	1 (4)
Did not state	3 (11)
Falls resulting in injury	

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<i>Variable</i>	<i>n (%)</i> /years
Yes	7 (26)
No	6 (22)
Did not state	14 (52)
Injury type from falls	
Fracture	2 (7)
Musculoskeletal pain or soreness	3 (11)
Bruising or scrapes	3 (11)